GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: December 9, 2004, 13:40:09 ; Search time 151 Seconds
(without alignments)
21.381 Million cell updates/sec

Title: US-10-019-513-1
Perfect score: 49
Sequence: 1 STAPPVHNV 9

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 2002273 seqs, 358729299 residues

Total number of hits satisfying chosen parameters: 2002273

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_23Sep04:*
1: geneseqp1980s:*
2: geneseqp1990s:*
3: geneseqp2000s:*
4: geneseqp2001s:*
5: geneseqp2002s:*
6: geneseqp2003as:*
7: geneseqp2003bs:*
8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	49	100.0	9	4	AAB11114	Aab11114 Human MUC
2	49	100.0	9	5	ABG79089	Abg79089 Human MUC
3	49	100.0	9	6	ADA50588	Ada50588 Mucin 1 (
4	49	100.0	9	8	ADG89655	Adg89655 Class I H
5	49	100.0	9	8	ADG20359	Adg20359 Antigenic
6	49	100.0	13	2	AAW77232	Aaw77232 Peptide s
7	49	100.0	20	8	ADE43990	Ade43990 MUC-1 imp
8	49	100.0	20	8	ADF32621	Adf32621 MUC-1 imp
9	49	100.0	30	5	AAU84987	Aau84987 Human MUC
10	49	100.0	173	3	AAY71021	Aay71021 Human Muc
11	49	100.0	180	2	AAR27664	Aar27664 C-termina
12	49	100.0	256	8	ADI57759	Adi57759 Human bre
13	49	100.0	287	2	AAR27665	Aar27665 Secreted
14	49	100.0	295	3	AAY71027	Aay71027 Ubiquitin
15	49	100.0	307	6	ADA50571	Ada50571 Mucin 1 (
16	49	100.0	312	5	AAU84810	Aau84810 Human MUC
17	49	100.0	316	8	ADI57755	Adi57755 Human bre
18	49	100.0	325	8	ADI57777	Adi57777 Human bre
19	49	100.0	327	2	AAR96298	Aar96298 Glycoprot
20	49	100.0	336	8	ADI57782	Adi57782 Human bre
21	49	100.0	348	2	AAR27662	Aar27662 C-termina
22	49	100.0	350	8	ADI57754	Adi57754 Human bre
23	49	100.0	372	8	ADI57758	Adi57758 Human bre
24	49	100.0	379	8	ADI57779	Adi57779 Human bre
25	49	100.0	396	8	ADI57776	Adi57776 Human bre
26	49	100.0	398	8	ADI57765	Adi57765 Human bre
27	49	100.0	409	8	ADI57778	Adi57778 Human bre
28	49	100.0	420	8	ADI57770	Adi57770 Human bre
29	49	100.0	435	8	ADI57752	Adi57752 Human bre
30	49	100.0	455	2	AAR23973	Aar23973 Transmemb
31	49	100.0	455	3	AAY71024	Aay71024 Human Muc
32	49	100.0	461	8	ADE43996	Ade43996 Plasmid J
33	49	100.0	463	8	ADI57750	Adi57750 Human bre
34	49	100.0	473	4	AAE09508	Aae09508 Human muc
35	49	100.0	475	4	AAU00573	Aau00573 Human MUC
36	49	100.0	475	5	ABB77476	Abb77476 Human MUC
37	49	100.0	475	6	ADA50567	Ada50567 Mucin 1 (
38	49	100.0	475	6	AAE37800	Aae37800 Human muc
39	49	100.0	475	7	ADD14120	Add14120 Human src
40	49	100.0	475	7	ADE48133	Ade48133 MUC1 amin
41	49	100.0	475	8	ADE43992	Ade43992 Plasmid J
42	49	100.0	475	8	ADF32626	Adf32626 Plasmid J
43	49	100.0	475	8	ADI57746	Adi57746 Human bre
44	49	100.0	475	8	ADK70494	Adk70494 Respirato
45	49	100.0	475	8	ADO28643	Ado28643 Human MUC

ALIGNMENTS

RESULT 1
AAB11114
ID AAB11114 standard; peptide; 9 AA.
XX
AC AAB11114;
XX
DT 16-FEB-2001 (first entry)
XX
DE Human MUC-1 protein fragment SEQ ID NO 1.
XX
KW Human; MUC-1; tumor; HLA-A2 restricted immune reaction; treatment;
KW human leukocyte antigen; gene therapy; antigen-presenting cell.
XX
OS Homo sapiens.
XX
PN DE19917195-A1.
XX
PD 19-OCT-2000.
XX
PF 16-APR-1999; 99DE-01017195.
XX
PR 16-APR-1999; 99DE-01017195.
XX
PA (UYTU-) UNIV TUEBINGEN EBERHARD-KARLS.
XX
PI Brossart P, Stevanovic S, Brugger W, Kanz L, Rammensee HG;
XX
DR WPI; 2001-032872/05.
XX
PT New peptide derived from the MUC-1 tumor marker, used to induce a
PT cytotoxic T cell response for treatment or prevention of tumors.
XX
PS Claim 1; Page 6; 8pp; German.
XX
CC This invention describes a novel peptide (I) derived from the MUC-1 gene
CC which is able to induce an HLA (human leukocyte antigen)-A2-restricted
CC immune reaction against tumor cells. (I) or the nucleic acid (II)
CC encoding (I), are used to induce an immune response against tumor cells,
CC so are useful for treatment or prevention of tumors, in conjunction with
CC other tumor therapies. In particular (II) is used in gene therapy or for
CC in vitro transfection or transformation of cells (particularly antigen-
CC presenting cells, optionally in vivo), for expression of (I). (I) has a
CC high binding capacity for HLA-A2 and can reverse the usual suppression of
CC the immune response associated with tumor cells. By introducing the
CC nucleic acid that encodes (I) into an antigen-presenting cell in vitro,
CC then returning the cells to the patient, a more certain and controlled
CC response is achieved, compared with administration of the peptide plus
CC adjuvant

XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 49; DB 4; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.7e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 STAPPVHNV 9
|||||||||
Db 1 STAPPVHNV 9

RESULT 2
ABG79089
ID ABG79089 standard; peptide; 9 AA.
XX
AC ABG79089;
XX
DT 15-NOV-2002 (first entry)
XX
DE Human MUCI class I HLA widely expressed antigen peptide #2.
XX
KW Cell penetrating peptide; cancer; tumour; melanoma; thymoma; antigen;
KW lymphoma; sarcoma; lung cancer; non-Hodgkin's lymphoma; leukaemia;
KW Hodgkin's lymphoma; uterine cancer; cervical cancer; bladder cancer;
KW kidney cancer; adenocarcinoma; breast cancer; prostate cancer;
KW ovarian cancer; pancreatic cancer; epitope; vaccine; dendritic cell;
KW tumour infiltrating lymphocyte; TIL; human leukocyte antigen; HLA;
KW cytostatic; human.
XX
OS Homo sapiens.
XX
PN WO200264057-A2.
XX
PD 22-AUG-2002.
XX
PF 15-FEB-2002; 2002WO-US005212.
XX
PR 15-FEB-2001; 2001US-0268687P.
XX
PA (BAYU) BAYLOR COLLEGE MEDICINE.
XX
PI Wang R;
XX
DR WPI; 2002-627577/67.
XX
PT Novel composition for treating a disease in an animal, comprises an
PT immune effector cell and cell penetrating peptide associated with an
PT antigen or antibody.
XX
PS Disclosure; Page 18; 61pp; English.
XX
CC The invention relates to a composition (I) comprising an immune effector
CC cell and a cell penetrating peptide (CPP) associated with an antigen or
CC antibody. Also included are (1) a vaccine comprising (I), CPP associated
CC with an antigen, and a pharmaceutically acceptable carrier and (2)
CC preparing a composition for a disease, by providing (I) and CPP
CC associated with an antigen for disease, and introducing the antigen-
CC associated CPP to (I), where antigen enters into the cell. The antigens
CC are, for example, tumour antigen derived epitopes recognised by tumour
CC infiltrating lymphocytes (TIL) of HLA (human leukocyte antigen) class I
CC or II. The composition is useful for enhancing immunity in an animal to a
CC disease, by administering a mature dendritic cell comprising CPP
CC associated with an antigen to disease, to the animal, such that following
CC the administration, animal is protected from disease, where the animal
CC comprises both CD4+ and CD8+ T cells. It is also useful for treating a
CC disease (e.g. cancer, tumour, melanoma, thymoma, lymphoma, sarcoma, lung
CC cancer, non-Hodgkin's lymphoma, leukaemia, Hodgkin's lymphoma, uterine
CC cancer, cervical cancer, bladder cancer, kidney cancer, adenocarcinoma,
CC breast cancer, prostate cancer, ovarian cancer and pancreatic cancer).
CC The animal is further subjected to a cancer treatment including surgery,
CC radiation, chemotherapy or gene therapy. The administration of (I),
CC preferably dendritic cell is prior to, subsequent to or concurrent with,
CC the cancer treatment. The present sequence is a tumour antigen derived
CC epitope for inclusion in the composition of the invention
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 49; DB 5; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.7e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 STAPPVHNV 9
|||||||||
Db 1 STAPPVHNV 9

RESULT 3
ADA50588
ID ADA50588 standard; peptide; 9 AA.
XX
AC ADA50588;
XX
DT 20-NOV-2003 (first entry)
XX
DE Mucin 1 (MUC-1) CTL epitope, SEQ ID NO:43.
XX
KW Nucleic acid vaccine; DNA vaccine; tumour antigen; cytokine adjuvant;
KW humoral response; cellular response; immune response; immunotherapy;
KW cancer; cytostatic; vaccine; gene therapy; mucin 1; MUC-1;
KW cytotoxic T lymphocyte; CTL epitope.
XX
OS Unidentified.
XX
PN WO2003031569-A2.
XX
PD 17-APR-2003.
XX
PF 18-SEP-2002; 2002WO-US029640.
XX
PR 10-OCT-2001; 2001US-0328371P.
XX
PA (CENZ) CENTOCOR INC.
XX
PI Snyder L, Scallon B, Knight DM, Mccarthy SG, Goletz TJ;
PI Branigan PJ;
XX
DR WPI; 2003-393437/37.
XX
PT New nucleic acid vaccine, useful for eliciting an immune response to a
PT cancer associated tumor protein in a mammal.
XX
PS Claim 1a; Page 45; 92pp; English.
XX
CC The invention relates to a nucleic acid vaccine comprising one or more
CC tumour antigen-encoding nucleic acids and one or more cytokine adjuvant-
CC encoding nucleic acids. The tumour antigen encoded by the vaccine is
CC mucin 1 (MUC-1), the kallikrein KLK2, or prostate specific antigen (PSA,
CC also known as KLK3), and the cytokine adjuvant encoded can be interleukin
CC -12 (IL-12), granulocyte macrophage-colony stimulating factor (GM-CSF),
CC or especially interleukin-18 (IL-18). The antigen-encoding nucleic acid
CC is preferably under the control of a promoter such as the cytomegalovirus
CC immediate early promoter, the dihydrofoliate reductase promoter or the
CC early or late SV40 promoters. The invention also encompasses the method
CC of eliciting an immune response to a tumour antigen in a mammal using the
CC vaccine of the invention. Coexpression of the antigen and adjuvant
CC induces a humoral or cellular response to the tumour antigen, generating
CC an immune reponse useful for treatment or prophylaxis of cancers. The
CC present sequence represents a mucin 1 (MUC-1) polypeptide sequence which
CC is specifically claimed for use in the vaccine of the invention.
XX
SQ Sequence 9 AA;

Query Match 100.0%; Score 49; DB 6; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.7e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 STAPPVHNV 9
              |||||||||
Db          1 STAPPVHNV 9


RESULT 4
ADG89655
ID   ADG89655 standard; peptide; 9 AA.
XX
AC   ADG89655;
XX
DT   11-MAR-2004  (first entry)
XX
DE   Class I HLA-restricted widely expressed antigen #20.
XX
KW   metastatic cancer cell differentiation; mutated fibronectin;
KW   metastatic cancer; class I HLA-restricted; widely antigen.
XX
OS   Unidentified.
XX
PN   WO2003100027-A2.
XX
PD   04-DEC-2003.
XX
PF   28-MAY-2003; 2003WO-US016736.
XX
PR   28-MAY-2002; 2002US-0383530P.
XX
PA   (BAYU ) BAYLOR COLLEGE MEDICINE.
XX
PI   Wang R;
XX
DR   WPI; 2004-035134/03.
XX
PT   Identifying a cell that differentiates into a metastatic cancer cell,
PT   useful for preventing metastatic cancer, comprises identifying a mutated
PT   fibronectin in the cell.
XX
PS   Disclosure; SEQ ID NO 98; 137pp; English.
XX
CC   The invention comprises a method for identifying a cell that will
CC   differentiate into a metastatic cancer cell, the method involves
CC   identifying a mutated fibronectin in the cell. The method of the
CC   invention is useful for preventing metastatic cancer. The present amino
CC   acid sequence represents a Class I HLA-restricted widely expressed
CC   antigen.
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 49;  DB 8;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.7e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db          1 STAPPVHNV 9


RESULT 5
ADG20359
ID   ADG20359 standard; peptide; 9 AA.
XX
AC   ADG20359;
XX
DT   11-MAR-2004  (first entry)
XX
DE   Antigenic peptide SEQ ID NO:35.
XX
KW   double-chimeric beta 2-microglobulin; antigenic peptide;
KW   antigen-presenting cell; beta 2-microglobulin;
KW   major histocompatibility complex class I epitope; MHC class I epitope;
KW   cytostatic; antibacterial; virucide; fungicide; protozoacide; vaccine;
KW   cytotoxic T lymphocyte induction; cancer; pathogenic organism;
KW   tumour associated antigen; pathogenic antigen.
XX
OS   Synthetic.
XX
PN   WO2003106616-A2.
XX
PD   24-DEC-2003.
XX
PF   12-JUN-2003; 2003WO-IL000501.
XX
PR   12-JUN-2002; 2002US-0388233P.
XX
PA   (GAVI-) GAVISH-GALILEE BIO APPL LTD.
XX
PI   Gross G,  Margalit A;
XX
DR   WPI; 2004-071554/07.
XX
PT   Novel double-chimeric beta2-microglobulin polynucleotide useful for
PT   treating cancer, comprising sequence encoding polypeptide capable of
PT   presentation of antigenic peptides.
XX
PS   Claim 16; SEQ ID NO 35; 86pp; English.
XX
CC   The present invention describes a double-chimeric beta 2-microglobulin
CC   polynucleotide (I) comprising a sequence encoding a polypeptide (II) that
CC   is capable of high level presentation of antigenic peptides on antigen-
CC   presenting cells, where (II) comprising a beta 2-microglobulin molecule
CC   that is linked through its carboxyl terminal to a polypeptide stretch
CC   which allows the anchorage of the beta 2-microglobulin molecule to the
CC   cell membrane, and through its amino terminal to a antigenic peptide
CC   comprising major histocompatibility complex (MHC) class I epitope. The
CC   antigenic peptide is not related to an autoimmune disease. Also
CC   described: (1) an expression vector (III) comprising (I) and is a
CC   recombinant viral vector; (2) an antigen-presenting cell (IV) transfected
CC   with (I); (3) a DNA vaccine (V) comprising a (I) or (III); (4) a cellular
CC   vaccine (VI) for the prevention or treatment of cancer comprising (IV)
CC   which express (I) or tumour cells transfected with (I), where the cells
CC   have been pulsed with an antigenic peptide derived from one tumour
CC   associated antigen; and (5) a pharmaceutical composition (VII) comprising
CC   (I), (III) or (IV) as an active ingredient and carrier. (I) has
CC   cytostatic, antibacterial, virucide, fungicide and protozoacide
CC   activities, and can be used in vaccines, and for inducing cytotoxic T
CC   lymphocytes. (I) and (V) can be used for the prevention or treatment of
CC   cancer or for a disease caused by a pathogenic organism. (VI) is useful
CC   for prevention or treatment of cancer, or disease caused by a pathogenic
CC   organism, where (VI) presents one tumour associated antigen, or
CC   pathogenic antigen. (VI) is also useful for immunising a mammal against a
CC   tumour-associated antigen or a disease caused by a pathogenic organism,
CC   which involves immunising the mammal with (VI). (I) is useful for
CC   inducing class I-restricted CTL response in a mammal. The present
CC   sequence is used in the exemplification of the present invention.
XX
SQ   Sequence 9 AA;

  Query Match             100.0%;  Score 49;  DB 8;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.7e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db          1 STAPPVHNV 9


RESULT 6
AAW77232
ID   AAW77232 standard; peptide; 13 AA.
XX
AC   AAW77232;
XX
DT   20-NOV-1998  (first entry)
XX
```

DE Peptide sequence encoding MUC1 tandem repeat unit c.
XX
KW MUC1; recombinant pox virus; cytotoxic T-lymphocyte; immunogen; tumour;
KW tumour-associated antigen.
XX
OS Homo sapiens.
XX
PN WO9837095-A2.
XX
PD 27-AUG-1998.
XX
PF 24-FEB-1998; 98WO-US003693.
XX
PR 24-FEB-1997; 97US-0038253P.
XX
PA (THER-) THERION BIOLOGICS CORP.
PA (USSH) US DEPT HEALTH & HUMAN SERVICES.
PA (DAND) DANA FARBER CANCER INST INC.
XX
PI Schlom J, Kantor J, Kufe D, Panicali D, Gritz L;
XX
DR WPI; 1998-467492/40.
XX
PT New recombinant pox virus for tumour therapy - comprises DNA encoding an
PT immunogenic mini-MUC1 fragment comprising 5-25 MUC1 tandem repeat units.
XX
PS Example 1; Page 20; 42pp; English.
XX
CC The MUC1 tandem repeat units AAW77230-W77232 were used to create an
CC immunogenic mini-MUC1 fragment for inclusion in a recombinant pox virus
CC (RPV). The RPV was used in a pharmaceutical composition also containing
CC an immunomodulator to generate MUC1 specific cytotoxic T-lymphocytes. The
CC recombinant pox virus therefore encodes an immunogenic MUC1 fragment that
CC does not undergo significant genetic deletion, thereby providing an
CC unexpectedly stable and immunogenic pox virus. They can be used to
CC prevent or treat tumours expressing MUC1 tumour-associated antigens
XX
SQ Sequence 13 AA;

Query Match 100.0%; Score 49; DB 2; Length 13;
Best Local Similarity 100.0%; Pred. No. 0.14;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 STAPPVHNV 9
|||||||||
Db 2 STAPPVHNV 10

RESULT 7
ADE43990
ID ADE43990 standard; peptide; 20 AA.
XX
AC ADE43990;
XX
DT 26-FEB-2004 (first entry)
XX
DE MUC-1 imperfect repeat 4 peptide.
XX
KW MUC-1; cytostatic; vaccine; tumour; carcinoma; immune response;
KW cytotoxic T lymphocyte; antibody response; human.
XX
OS Synthetic.
OS Homo sapiens.
XX
PN WO2003099193-A2.
XX
PD 04-DEC-2003.
XX
PF 23-MAY-2003; 2003WO-EP005595.
XX
PR 24-MAY-2002; 2002GB-00012036.
XX
PA (GLAX) GLAXO GROUP LTD.
XX
PI Burden N, Hamblin P;
XX
DR WPI; 2004-035026/03.
XX
PT New nucleic acid molecule encoding a MUC-1 derivative that is devoid of
PT all perfect repeats, useful as vaccine for treating or preventing MUC-1
PT expressing tumors e.g. carcinoma of the breast, lung or gastrointestinal
PT carcinomas.
XX
PS Example; Page 16; 34pp; English.
XX
CC The present invention describes a nucleic acid molecule encoding a MUC-1
CC derivative that is devoid of all perfect repeats. Also described: (1) a
CC plasmid comprising the DNA molecule; (2) a protein encoded by a nucleic
CC acid molecule; (3) a pharmaceutical composition comprising the nucleic
CC acid, the plasmid or the protein and a pharmaceutical acceptable
CC excipient, diluent or carrier; and (4) a method of treating or preventing
CC tumours. MUC-1 has cytostatic activity, and can be used in vaccines. The
CC nucleic acid, plasmid, a protein or the pharmaceutical composition of the
CC present invention can be used in medicine. The nucleic acid or the
CC protein can be used in the preparation of a medicament for the treatment
CC or prevention MUC-1 expressing tumours. The tumour can be carcinomas of
CC the breast, lung, gastric or other gastrointestinal carcinomas. The
CC nucleic acid vaccines are easy to produce in large quantities compared
CC over conventional protein vaccination. Even at small doses they have been
CC reported to induce strong immune responses and can induce a cytotoxic T
CC lymphocyte immune response as well as an antibody response. The present
CC sequence represents a MUC-1 imperfect repeat peptide, which is used in
CC the exemplification of the present invention.
XX
SQ Sequence 20 AA;

Query Match 100.0%; Score 49; DB 8; Length 20;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 STAPPVHNV 9
|||||||||
Db 10 STAPPVHNV 18

RESULT 8
ADF32621
ID ADF32621 standard; peptide; 20 AA.
XX
AC ADF32621;
XX
DT 26-FEB-2004 (first entry)
XX
DE MUC-1 imperfect repeat 4 VNTR.
XX
KW MUC-1 antigen; immune response; MUC-1; variable number of tandem repeat;
KW VNTR; repeat unit; tumour; metastasis; cytostatic; vaccine; gene therapy.
XX
OS Synthetic.
XX
PN WO2003100060-A2.
XX
PD 04-DEC-2003.
XX
PF 23-MAY-2003; 2003WO-EP005594.
XX
PR 24-MAY-2002; 2002GB-00012046.
XX
PA (GLAX) GLAXO GROUP LTD.
XX
PI Burden N, Ellis JH, Hamblin PA;
XX
DR WPI; 2004-042811/04.
XX
PT New nucleic acid molecule encoding a MUC-1 antigen, useful for preparing
PT a composition for treating or preventing tumors or metastases.

XX
PS Disclosure; Page 2; 66pp; English.
XX
CC The present invention describes a nucleic acid molecule which encodes a
CC MUC-1 antigen. The nucleic acid is capable of raising an immune response
CC in vivo, has reduced susceptibility to recombination than full-length MUC
CC -1 and comprises between 1 and 15 variable number of tandem repeats
CC (VNTR) perfect repeat units. Also described: (1) a plasmid comprising the
CC DNA molecule; (2) a protein encoded by the nucleic acid; (3) a
CC pharmaceutical composition comprising the nucleic acid, plasmid or
CC protein and an excipient, diluent or carrier; and (4) a method of
CC treating or preventing tumours or metastases. A MUC1 antigen has
CC cytostatic activity, and can be used in vaccines, and in gene therapy.
CC The nucleic acid is useful for preparing a composition for treating or
CC preventing tumours or metastases. The present sequence is used in the
CC exemplification of the present invention.
XX
SQ Sequence 20 AA;

Query Match 100.0%; Score 49; DB 8; Length 20;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 STAPPVHNV 9
|||||||||
Db 10 STAPPVHNV 18

RESULT 9
AAU84987
ID AAU84987 standard; peptide; 30 AA.
XX
AC AAU84987;
XX
DT 08-MAY-2002 (first entry)
XX
DE Human MUC1R segment 1.
XX
KW Savine; vaccine; cancer; viral infection; HIV; hepatitis C virus;
KW viral infection; human immunodeficieny virus; melanoma;
KW bacterial infection; Salmonella; Legionella; parasitic infection;
KW Trypanosoma; Toxoplasma; Giardia.
XX
OS Homo sapiens.
XX
PN WO200190197-A1.
XX
PD 29-NOV-2001.
XX
PF 25-MAY-2001; 2001WO-AU000622.
XX
PR 26-MAY-2000; 2000AU-00007761.
XX
PA (AUSU) UNIV AUSTRALIAN NAT.
XX
PI Thomson SA, Ramshaw IA;
XX
DR WPI; 2002-147575/19.
DR N-PSDB; ABK36807.
XX
PT New synthetic polypeptides having several different segments of at least
PT one parent polypeptide linked together differently compared to the
PT linkage in the parent polypeptide, for inducing immune response against a
PT pathogen or cancer.
XX
PS Example 3; Fig 27; 364pp; English.
XX
CC The invention relates to a new synthetic polypeptide (I) comprising
CC several different segments of at least one parent polypeptide linked
CC together in a different relationship relative to their linkage in the
CC parent polypeptide to impede, abrogate or otherwise alter at least one
CC function associated with the parent polypeptide and for inducing an
CC immune response against a pathogen or cancer. Also included are a
CC synthetic polynucleotide encoding and a computer system for designing the
CC synthetic polypeptides. The synthetic polypeptides and polynucleotides
CC are referred to as a Savine. The synthetic polypeptide is useful for
CC modulating immune responses preferably directed against a pathogen or a
CC cancer, (e.g., cancers of the lung, breast, ovary, cervix, colon, head
CC and neck, pancreas, prostate, stomach, bladder, kidney, bone liver,
CC oesophagus, brain, testicle, uterus), as potentiating agents.
CC Compositions comprising the polypeptide may be used in the treatment or
CC prophylaxis against viral (such as infections caused by HIV (human
CC immunodeficiency virus), hepatitis, influenza, Japanese encephalitis
CC virus, Epstein-Barr virus and respiratory syncytial virus), bacterial
CC (e.g., infections caused by Neisseria, Meningococcal, Haemophilus,
CC Salmonella, Streptococcal, Legionella and Mycobacterium or parasitic
CC (e.g., infections caused by Plasmodium, Schistosoma, Leishmania,
CC Trypanosoma, Toxoplasma and Giardia) infections. The present sequence is
CC a peptide derived from a parent protein used to construct a savine of the
CC invention
XX
SQ Sequence 30 AA;

Query Match 100.0%; Score 49; DB 5; Length 30;
Best Local Similarity 100.0%; Pred. No. 0.32;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 STAPPVHNV 9
|||||||||
Db 9 STAPPVHNV 17

RESULT 10
AAY71021
ID AAY71021 standard; protein; 173 AA.
XX
AC AAY71021;
XX
DT 29-AUG-2000 (first entry)
XX
DE Human Mucin 1 (MUC-1) protein fragment #2.
XX
KW Human; Mucin 1; MUC-1; tumour; pMRS30 expression vector; anti-tumour;
KW therapy; immune response; cytostatic; vaccine.
XX
OS Homo sapiens.
XX
PN WO200025827-A2.
XX
PD 11-MAY-2000.
XX
PF 18-OCT-1999; 99WO-EP007874.
XX
PR 30-OCT-1998; 98IT-MI002330.
XX
PA (MENA) MENARINI RICERCHE SPA.
XX
PI Parente D, Di Massimo AM, De Santis R;
XX
DR WPI; 2000-365410/31.
DR N-PSDB; AAD00385.
XX
PT Composition containing one or more DNA molecules encoding fragments of a
PT Mucin 1 (MUC-1) protein overexpressed in tumor cells, useful in anti-
PT tumor therapy.
XX
PS Claim 16; Fig 2; 56pp; English.
XX
CC The present sequence is a fragment of human Mucin 1 (MUC-1), an antigenic
CC protein overexpressed in tumour cells. The sequence was obtained from
CC BT20 tumour cells. The corresponding DNA sequence is cloned into a pMRS30
CC expression vector and used in pharmaceutical composition e.g. vaccine for
CC inducing an antigen-specific anti-tumour immune response. Composition
CC containing this DNA molecule is useful in anti-tumour therapy of patients
CC affected with tumours characterised by high MUC-1 expression
XX

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SQ   Sequence 173 AA;

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  Best Local Similarity   100.0%;  Pred. No. 1.9;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db        127 STAPPVHNV 135


RESULT 11
AAR27664
ID   AAR27664 standard; protein; 180 AA.
XX
AC   AAR27664;
XX
DT   25-MAR-2003  (revised)
DT   06-NOV-1992  (first entry)
XX
DE   C-terminal region of H23-ETA-S antigen.
XX
KW   Secreted; human epithelial antigen; Monoclonal antibody H23; vaccine;
KW   malignant tumour; breast cancer; tandem repeat.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Region          1. .40
FT                   /note= "contains 2 tandem repeats - can have up to 80
FT                   copies"
FT   Misc-difference 7
FT                   /label= Pro, Ala
FT                   /note= "natural polymorphism"
FT   Misc-difference 17
FT                   /label= Thr, Asn
FT                   /note= "natural polymorphism"
FT   Misc-difference 20
FT                   /label= Pro, Ala
FT                   /note= "natural polymorphism"
FT   Misc-difference 27
FT                   /label= Pro, Ala
FT                   /note= "natural polymorphism"
FT   Misc-difference 37
FT                   /label= Thr, Asn
FT                   /note= "natural polymorphism"
FT   Misc-difference 40
FT                   /label= Pro, Ala
FT                   /note= "natural polymorphism"
XX
PN   WO9207000-A1.
XX
PD   30-APR-1992.
XX
PF   23-OCT-1991;   91WO-FR000835.
XX
PR   23-OCT-1990;   90FR-00013101.
XX
PA   (TRGE ) TRANSGENE SA.
XX
PI   Chambon P,  Kieny MP,  Lathe R,  Hareuveni M;
XX
DR   WPI; 1992-167097/20.
DR   N-PSDB; AAQ24681.
XX
PT   Compsns. contg. polypeptide antigen recognised by antibody H23 - for
PT   treatment of mammary tumours, also for pox virus compsns. for use in
PT   vaccines.
XX
PS   Claim 3; Page 19-21; 29pp; French.
XX
CC   The tumour antigen recognised by antibody H23 is aberrantly expressed in
CC   epithelial cells from cancerous mammary tissue in about 90 per cent of
CC   breast cancer cases; in a normal individual expression is negligible. The
CC   antigen exists in two forms: transmembrane (ETA-T) and secreted (ETA-S).
CC   Both forms show a high degree of polymorphism. A 20 amino acid subunit in
CC   ETA can be tandemly repeated up to 80 times. (N.B. two tandem repeats are
CC   shown here; the first half of the amino acid sequence, i.e. on the N-
CC   terminal side of the repeat region, is given in AAR27663). From one
CC   subunit to the next, 1 to 3 amino acids can differ. See also AAQ24678-
CC   Q24681, AAQ29276-7 and AAR23974-R23981. (Updated on 25-MAR-2003 to
CC   correct PN field.)
XX
SQ   Sequence 180 AA;

  Query Match             100.0%;  Score 49;  DB 2;  Length 180;
  Best Local Similarity   100.0%;  Pred. No. 2;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db         43 STAPPVHNV 51


RESULT 12
ADI57759
ID   ADI57759 standard; protein; 256 AA.
XX
AC   ADI57759;
XX
DT   22-APR-2004  (first entry)
XX
DE   Human breast specific protein (BSP) #36.
XX
KW   Human; breast specific protein; BSP; metastasis; breast cancer;
KW   cytostatic.
XX
OS   Homo sapiens.
XX
PN   WO2003106648-A2.
XX
PD   24-DEC-2003.
XX
PF   16-JUN-2003; 2003WO-US018934.
XX
PR   14-JUN-2002; 2002US-0389327P.
XX
PA   (DIAD-) DIADEXUS INC.
XX
PI   Salceda S,  Macina RA,  Turner LR,  Sun Y,  Liu C;
XX
DR   WPI; 2004-082185/08.
DR   N-PSDB; ADI57687.
XX
PT   Novel isolated polypeptide comprising breast specific protein sequences,
PT   useful for diagnosing or monitoring presence and metastases of breast
PT   cancer in patient.
XX
PS   Claim 12; SEQ ID NO 130; 370pp; English.
XX
CC   The invention relates to human breast specific nucleic acids (BSNA) and
CC   the breast specific proteins (BSP) they encode. The nucleic acids are
CC   useful for determining the presence of a BSNA in a sample which involves
CC   contacting the sample with a BSNA under conditions in which the BSNA will
CC   selectively hybridise to a BSNA in the sample, and detecting the
CC   hybridisation. The nucleic acids are useful for determining the presence
CC   of a BSP in a sample which involves contacting the sample with suitable
CC   reagent under conditions in which the reagent will selectively interact
CC   with the BSP, and detecting the interaction of the reagent with a BSP in
CC   the sample. The nucleic acids and proteins are useful for diagnosing or
CC   monitoring the presence and metastases of breast cancer in a patient,
CC   which involves determining an amount of nucleic acid or protein and
CC   comparing the determined amount of nucleic acid or protein in the sample
CC   of the patient to the amount of a breast specific marker in a normal
CC   control, where a difference in the determined amount in the sample
CC   compared to the amount in the control is associated with the presence of
```

```
CC   breast cancer. The sequences are useful for treating a patient with
CC   breast cancer, involving administering a composition consisting of a BSNA
CC   or a BSP to a patient, where the administration induces an immune
CC   response against the breast cancer cell expressing the BSNA or BSP. This
CC   sequence represents a human BSP of the invention.
XX
SQ   Sequence 256 AA;

  Query Match             100.0%;  Score 49;  DB 8;  Length 256;
  Best Local Similarity   100.0%;  Pred. No. 2.8;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db        130 STAPPVHNV 138


RESULT 13
AAR27665
ID   AAR27665 standard; protein; 287 AA.
XX
AC   AAR27665;
XX
DT   25-MAR-2003  (revised)
DT   06-NOV-1992  (first entry)
XX
DE   Secreted form of H23-ETA antigen.
XX
KW   ETA-S; human epithelial antigen; Monoclonal antibody H23; vaccine;
KW   malignant tumour; breast cancer; tandem repeat.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .21
FT                   /label= signal
FT   Protein         22. .287
FT                   /label= ETA-T
FT   Misc-difference 134
FT                   /label= Pro, Ala
FT                   /note= "natural polymorphism"
FT   Misc-difference 144
FT                   /label= Thr, Asn
FT                   /note= "natural polymorphism"
FT   Misc-difference 147
FT                   /label= Pro, Ala
FT                   /note= "natural polymorphism"
XX
PN   WO9207000-A1.
XX
PD   30-APR-1992.
XX
PF   23-OCT-1991;   91WO-FR000835.
XX
PR   23-OCT-1990;   90FR-00013101.
XX
PA   (TRGE ) TRANSGENE SA.
XX
PI   Chambon P,  Kieny MP,  Lathe R,  Hareuveni M;
XX
DR   WPI; 1992-167097/20.
DR   N-PSDB; AAQ29277.
XX
PT   Compsns. contg. polypeptide antigen recognised by antibody H23 - for
PT   treatment of mammary tumours, also for pox virus compsns. for use in
PT   vaccines.
XX
PS   Claim 3; Page 19-21; 29pp; French.
XX
CC   The tumour antigen recognised by antibody H23 is aberrantly expressed in
CC   epithelial cells from cancerous mammary tissue in about 90 per cent of
CC   breast cancer cases; in a normal individual expression is negligible. The
CC   antigen exists in two forms: transmembrane (ETA-T) and secreted (ETA-S).
CC   Both forms show a high degree of polymorphism. A 20 amino acid subunit in
CC   ETA can be tandemly repeated up to 80 times. From one subunit to the
CC   next, 1 to 3 amino acids can differ. DNA coding for immunogenic fragments
CC   of ETA can be inserted into e.g. vaccinia viruses for treatment of
CC   mammary tumours. See also AAQ24678-Q24681, AAQ29276-7 and AAR23974-
CC   R23981. (Updated on 25-MAR-2003 to correct PN field.)
XX
SQ   Sequence 287 AA;

  Query Match             100.0%;  Score 49;  DB 2;  Length 287;
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  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db        150 STAPPVHNV 158


RESULT 14
AAY71027
ID   AAY71027 standard; protein; 295 AA.
XX
AC   AAY71027;
XX
DT   12-SEP-2003  (revised)
DT   29-AUG-2000  (first entry)
XX
DE   Ubiquitin-E. coli LacI-human Mucin 1 fusion protein #2.
XX
KW   Ubiquitin; LacI; beta-galactosidase; fusion protein; human; Mucin 1;
KW   MUC-1; tumour; pMRS30 expression vector; anti-tumour; therapy;
KW   immune response; cytostatic; vaccine.
XX
OS   Homo sapiens.
OS   Escherichia coli.
OS   Chimeric.
XX
FH   Key             Location/Qualifiers
FT   Region          1. .123
FT                   /label= UBILacI_protein
FT                   /note= "contains ubiquitin sequence fused to a portion of
FT                   E. coli LacI"
FT   Region          124. .295
FT                   /label= Human_MUC-1_fragment
XX
PN   WO200025827-A2.
XX
PD   11-MAY-2000.
XX
PF   18-OCT-1999;   99WO-EP007874.
XX
PR   30-OCT-1998;   98IT-MI002330.
XX
PA   (MENA ) MENARINI RICERCHE SPA.
XX
PI   Parente D,  Di Massimo AM,  De Santis R;
XX
DR   WPI; 2000-365410/31.
DR   N-PSDB; AAD00391.
XX
PT   Composition containing one or more DNA molecules encoding fragments of a
PT   Mucin 1 (MUC-1) protein overexpressed in tumor cells, useful in anti-
PT   tumor therapy.
XX
PS   Claim 18; Fig 8; 56pp; English.
XX
CC   The present sequence is a fusion protein consisting of human Mucin 1 (MUC
CC   -1) fragment fused to UBILacI sequence at the N-terminus. The UBILacI
CC   sequence consists of ubiquitin from MCF7 cell line and a portion of E.
CC   coli beta-galactosidase (LacI). MUC-1 is an antigenic protein
CC   overexpressed in tumour cells. The corresponding DNA sequence is cloned
CC   into a pMRS30 expression vector and used in pharmaceutical composition
CC   e.g. vaccine for inducing an antigen-specific anti-tumour immune
```

CC response. Composition containing this DNA molecule is useful in anti-
CC tumour therapy of patients affected with tumours characterised by high
CC MUC-1 expression. (Updated on 12-SEP-2003 to standardise OS field)
XX
SQ Sequence 295 AA;

Query Match 100.0%; Score 49; DB 3; Length 295;
Best Local Similarity 100.0%; Pred. No. 3.3;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 STAPPVHNV 9
|||||||||
Db 249 STAPPVHNV 257

RESULT 15
ADA50571
ID ADA50571 standard; protein; 307 AA.
XX
AC ADA50571;
XX
DT 20-NOV-2003 (first entry)
XX
DE Mucin 1 (MUC-1) splice variant #1, SEQ ID NO:26.
XX
KW Nucleic acid vaccine; DNA vaccine; tumour antigen; cytokine adjuvant;
KW humoral response; cellular response; immune response; immunotherapy;
KW cancer; cytostatic; vaccine; gene therapy; mucin 1; MUC-1.
XX
OS Unidentified.
XX
PN WO2003031569-A2.
XX
PD 17-APR-2003.
XX
PF 18-SEP-2002; 2002WO-US029640.
XX
PR 10-OCT-2001; 2001US-0328371P.
XX
PA (CENZ) CENTOCOR INC.
XX
PI Snyder L, Scallon B, Knight DM, Mccarthy SG, Goletz TJ;
PI Branigan PJ;
XX
DR WPI; 2003-393437/37.
DR N-PSDB; ADA50572.
XX
PT New nucleic acid vaccine, useful for eliciting an immune response to a
PT cancer associated tumor protein in a mammal.
XX
PS Claim 1a; Page 38; 92pp; English.
XX
CC The invention relates to a nucleic acid vaccine comprising one or more
CC tumour antigen-encoding nucleic acids and one or more cytokine adjuvant-
CC encoding nucleic acids. The tumour antigen encoded by the vaccine is
CC mucin 1 (MUC-1), the kallikrein KLK2, or prostate specific antigen (PSA,
CC also known as KLK3), and the cytokine adjuvant encoded can be interleukin
CC -12 (IL-12), granulocyte macrophage-colony stimulating factor (GM-CSF),
CC or especially interleukin-18 (IL-18). The antigen-encoding nucleic acid
CC is preferably under the control of a promoter such as the cytomegalovirus
CC immediate early promoter, the dihydrofoliate reductase promoter or the
CC early or late SV40 promoters. The invention also encompasses the method
CC of eliciting an immune response to a tumour antigen in a mammal using the
CC vaccine of the invention. Coexpression of the antigen and adjuvant
CC induces a humoral or cellular response to the tumour antigen, generating
CC an immune reponse useful for treatment or prophylaxis of cancers. The
CC present sequence represents a mucin 1 (MUC-1) polypeptide sequence which
CC is specifically claimed for use in the vaccine of the invention.
XX
SQ Sequence 307 AA;

Query Match 100.0%; Score 49; DB 6; Length 307;
Best Local Similarity 100.0%; Pred. No. 3.4;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 STAPPVHNV 9
|||||||||
Db 170 STAPPVHNV 178

Search completed: December 9, 2004, 13:54:22
Job time : 153 secs

GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: December 9, 2004, 13:49:19 ; Search time 38 Seconds
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Sequence: 1 STAPPVHNV 9

Scoring table: BLOSUM62
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Searched: 478139 seqs, 66318000 residues

Total number of hits satisfying chosen parameters: 478139

Minimum DB seq length: 0
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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1	49	100.0	1867	2	US-08-479-537A-5	Sequence 5, Appli
2	49	100.0	1867	3	US-09-083-116-5	Sequence 5, Appli
3	49	100.0	1867	3	US-09-134-916A-5	Sequence 5, Appli
4	49	100.0	2035	2	US-08-479-537A-2	Sequence 2, Appli
5	49	100.0	2035	3	US-09-083-116-2	Sequence 2, Appli
6	49	100.0	2035	3	US-09-134-916A-2	Sequence 2, Appli
7	39	79.6	9	1	US-08-787-547-55	Sequence 55, Appl
8	39	79.6	9	2	US-08-288-059-19	Sequence 19, Appl
9	39	79.6	9	4	US-09-593-870A-45	Sequence 45, Appl
10	39	79.6	9	4	US-09-497-232-1	Sequence 1, Appli
11	39	79.6	16	3	US-09-043-731-19	Sequence 19, Appl
12	39	79.6	19	1	US-08-099-354-3	Sequence 3, Appli
13	39	79.6	19	2	US-08-288-059-9	Sequence 9, Appli
14	39	79.6	20	2	US-08-288-059-1	Sequence 1, Appli
15	39	79.6	20	2	US-08-288-059-32	Sequence 32, Appl
16	39	79.6	20	2	US-08-902-516-20	Sequence 20, Appl
17	39	79.6	20	2	US-08-833-807-1	Sequence 1, Appli
18	39	79.6	20	3	US-09-339-944-1	Sequence 1, Appli
19	39	79.6	20	3	US-08-737-896-3	Sequence 3, Appli
20	39	79.6	20	3	US-09-223-043-1	Sequence 1, Appli
21	39	79.6	20	3	US-08-134-198E-34	Sequence 34, Appl
22	39	79.6	20	4	US-09-847-185-20	Sequence 20, Appl
23	39	79.6	20	4	US-09-593-870A-1	Sequence 1, Appli
24	39	79.6	20	4	US-09-646-028-40	Sequence 40, Appl
25	39	79.6	20	4	US-09-497-232-9	Sequence 9, Appli
26	39	79.6	20	4	US-09-497-232-11	Sequence 11, Appl
27	39	79.6	20	4	US-09-651-265-1	Sequence 1, Appli
28	39	79.6	20	4	US-09-000-003A-3	Sequence 3, Appli
29	39	79.6	20	4	US-09-601-729-140	Sequence 140, App
30	39	79.6	20	4	US-09-641-833-1	Sequence 1, Appli
31	39	79.6	20	5	PCT-US96-09951-3	Sequence 3, Appli
32	39	79.6	21	1	US-08-099-354-4	Sequence 4, Appli
33	39	79.6	21	2	US-08-288-059-10	Sequence 10, Appl
34	39	79.6	21	2	US-08-833-807-14	Sequence 14, Appl
35	39	79.6	21	3	US-09-223-043-14	Sequence 14, Appl
36	39	79.6	21	4	US-09-593-870A-23	Sequence 23, Appl
37	39	79.6	25	2	US-08-288-059-28	Sequence 28, Appl
38	39	79.6	25	4	US-09-497-232-5	Sequence 5, Appli
39	39	79.6	28	2	US-08-488-161-9	Sequence 9, Appli
40	39	79.6	28	3	US-09-273-685-9	Sequence 9, Appli
41	39	79.6	28	5	PCT-US95-11934-9	Sequence 9, Appli
42	39	79.6	30	3	US-08-737-896-6	Sequence 6, Appli
43	39	79.6	30	3	US-08-134-198E-13	Sequence 13, Appl
44	39	79.6	30	4	US-09-593-870A-47	Sequence 47, Appl
45	39	79.6	30	5	PCT-US96-09951-6	Sequence 6, Appli

ALIGNMENTS

RESULT 1
US-08-479-537A-5
; Sequence 5, Application US/08479537A
; Patent No. 5861381
; GENERAL INFORMATION:
; APPLICANT: CHAMBON, Pierre
; APPLICANT: KIENY, Marie-Paule
; APPLICANT: LATHE, Richard
; APPLICANT: HAREUVENI, Mara
; TITLE OF INVENTION: PHARMACEUTICAL COMPOSITION FOR THE
; TITLE OF INVENTION: TREATMENT OR PREVENTION OF A MALIGNANT TUMOR
; NUMBER OF SEQUENCES: 5
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: BURNS, DOANE, SWECKER & MATHIS, L.L.P.
; STREET: P.O. Box 1404
; CITY: Alexandria
; STATE: Virginia
; COUNTRY: United States
; ZIP: 22313-1404
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/479,537A
; FILING DATE: 07-JUN-1995
; CLASSIFICATION: 514
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: FR 90/13101
; FILING DATE: 23-OCT-1990
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: WO PCT/FR91/00835
; FILING DATE: 23-OCT-1991
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/039,320
; FILING DATE: 04-APR-1993
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/403,576
; FILING DATE: 14-MAR-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: Teskin, Robin L.
; REGISTRATION NUMBER: 35,030
; REFERENCE/DOCKET NUMBER: 017753-025
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703) 836-6620
; TELEFAX: (703) 836-2021
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 1867 amino acids

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;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  128..1727
;      OTHER INFORMATION:  /note= "The amino acids spanning
;      OTHER INFORMATION:  128 to 1727 constitute a repeated region wherein the repeat i
;      OTHER INFORMATION:  20 amino acids, 17 of which are fixed.  The number of such
;      OTHER INFORMATION:  repeats varies from 1 to 40."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  134
;      OTHER INFORMATION:  /note= "Amino acid 134 is X1 = Xaa
;      OTHER INFORMATION:  which is the codon for Pro or Ala wherein Pro = CCT, CCC, CCA
;      OTHER INFORMATION:  or CCG; and Ala = GCT, GCC, GCA, or GCG."
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;      NAME/KEY:  Peptide
;      LOCATION:  144
;      OTHER INFORMATION:  /note= "Amino acid 144 is Y = Xaa
;      OTHER INFORMATION:  which is the codon for Thr or Asn wherein Thr = ACT, ACC, ACA
;      OTHER INFORMATION:  or ACG; and Asn = AAT or AAC."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  147
;      OTHER INFORMATION:  /note= "Amino acid 147 is X2 = Xaa
;      OTHER INFORMATION:  which is the codon for Pro or Ala wherein Pro = CCT, CCC, CCA
;      OTHER INFORMATION:  or CCG; and Ala = GCT, GCC, GCA, or GCG."
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;      NAME/KEY:  Peptide
;      LOCATION:  1..21
;      OTHER INFORMATION:  /note= "Amino acids 1 to 21 are a
;      OTHER INFORMATION:  21 amino acid precursor sequence."
US-08-479-537A-5

  Query Match             100.0%;  Score 49;  DB 2;  Length 1867;
  Best Local Similarity   100.0%;  Pred. No. 5.1;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db       1730 STAPPVHNV 1738


RESULT 2
US-09-083-116-5
; Sequence 5, Application US/09083116
; Patent No. 6203795
;  GENERAL INFORMATION:
;    APPLICANT:  CHAMBON, Pierre
;    APPLICANT:  KIENY, Marie-Paule
;    APPLICANT:  LATHE, Richard
;    APPLICANT:  HAREUVENI, Mara
;    TITLE OF INVENTION:  PHARMACEUTICAL COMPOSITION FOR THE
;    TITLE OF INVENTION:  TREATMENT OR PREVENTION OF A MALIGNANT TUMOR
;    NUMBER OF SEQUENCES:  5
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BURNS, DOANE, SWECKER & MATHIS, L.L.P.
;      STREET:  P.O. Box 1404
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  United States
;      ZIP:  22313-1404
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/083,116
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/479,537
;      FILING DATE:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  WO PCT/FR91/00835
;      FILING DATE:  23-OCT-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/039,320
;      FILING DATE:  04-APR-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/403,576
;      FILING DATE:  14-MAR-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Teskin, Robin L.
;      REGISTRATION NUMBER:  35,030
;      REFERENCE/DOCKET NUMBER:  017753-025
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703) 836-6620
;      TELEFAX:  (703) 836-2021
;  INFORMATION FOR SEQ ID NO:  5:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  1867 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  128..1727
;      OTHER INFORMATION:  /note= "The amino acids spanning
;      OTHER INFORMATION:  128 to 1727 constitute a repeated region wherein the repeat i
;      OTHER INFORMATION:  20 amino acids, 17 of which are fixed.  The number of such
;      OTHER INFORMATION:  repeats varies from 1 to 40."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  134
;      OTHER INFORMATION:  /note= "Amino acid 134 is X1 = Xaa
;      OTHER INFORMATION:  which is the codon for Pro or Ala wherein Pro = CCT, CCC, CCA
;      OTHER INFORMATION:  or CCG; and Ala = GCT, GCC, GCA, or GCG."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  144
;      OTHER INFORMATION:  /note= "Amino acid 144 is Y = Xaa
;      OTHER INFORMATION:  which is the codon for Thr or Asn wherein Thr = ACT, ACC, ACA
;      OTHER INFORMATION:  or ACG; and Asn = AAT or AAC."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  147
;      OTHER INFORMATION:  /note= "Amino acid 147 is X2 = Xaa
;      OTHER INFORMATION:  which is the codon for Pro or Ala wherein Pro = CCT, CCC, CCA
;      OTHER INFORMATION:  or CCG; and Ala = GCT, GCC, GCA, or GCG."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  1..21
;      OTHER INFORMATION:  /note= "Amino acids 1 to 21 are a
;      OTHER INFORMATION:  21 amino acid precursor sequence."
US-09-083-116-5

  Query Match             100.0%;  Score 49;  DB 3;  Length 1867;
  Best Local Similarity   100.0%;  Pred. No. 5.1;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db       1730 STAPPVHNV 1738


RESULT 3
US-09-134-916A-5
; Sequence 5, Application US/09134916A
; Patent No. 6328956
;  GENERAL INFORMATION:
;    APPLICANT:  CHAMBON, Pierre
```

```
;    APPLICANT:  KIENY, Marie-Paule
;    APPLICANT:  LATHE, Richard
;    APPLICANT:  HAREUVENI, Mara
;    TITLE OF INVENTION:  PHARMACEUTICAL COMPOSITION FOR THE
;    TITLE OF INVENTION:  TREATMENT OR PREVENTION OF A MALIGNANT TUMOR
;    NUMBER OF SEQUENCES:  5
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BURNS, DOANE, SWECKER & MATHIS, L.L.P.
;      STREET:  P.O. Box 1404
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  United States
;      ZIP:  22313-1404
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/134,916A
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/479,537
;      FILING DATE:  07-JUN-1995
;      APPLICATION NUMBER:  FR 90/13101
;      FILING DATE:  23-OCT-1990
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  WO PCT/FR91/00835
;      FILING DATE:  23-OCT-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/039,320
;      FILING DATE:  04-APR-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/403,576
;      FILING DATE:  14-MAR-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Teskin, Robin L.
;      REGISTRATION NUMBER:  35,030
;      REFERENCE/DOCKET NUMBER:  017753-025
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703) 836-6620
;      TELEFAX:  (703) 836-2021
;  INFORMATION FOR SEQ ID NO:  5:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  1867 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  128..1727
;      OTHER INFORMATION:  /note= "The amino acids spanning
;      OTHER INFORMATION:  128 to 1727 constitute a repeated region wherein the repeat i
;      OTHER INFORMATION:  20 amino acids, 17 of which are fixed.  The number of such
;      OTHER INFORMATION:  repeats varies from 1 to 40."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  134
;      OTHER INFORMATION:  /note= "Amino acid 134 is X1 = Xaa
;      OTHER INFORMATION:  which is the codon for Pro or Ala wherein Pro = CCT, CCC, CCA
;      OTHER INFORMATION:  or CCG; and Ala = GCT, GCC, GCA, or GCG."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  144
;      OTHER INFORMATION:  /note= "Amino acid 144 is Y = Xaa
;      OTHER INFORMATION:  which is the codon for Thr or Asn wherein Thr = ACT, ACC, ACA
;      OTHER INFORMATION:  or ACG; and Asn = AAT or AAC."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  147
;      OTHER INFORMATION:  /note= "Amino acid 147 is X2 = Xaa
;      OTHER INFORMATION:  which is the codon for Pro or Ala wherein Pro = CCT, CCC, CC
;      OTHER INFORMATION:  or CCG; and Ala = GCT, GCC, GCA, or GCG."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  1..21
;      OTHER INFORMATION:  /note= "Amino acids 1 to 21 are a
;      OTHER INFORMATION:  21 amino acid precursor sequence."
US-09-134-916A-5

  Query Match             100.0%;  Score 49;  DB 3;  Length 1867;
  Best Local Similarity   100.0%;  Pred. No. 5.1;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db       1730 STAPPVHNV 1738


RESULT 4
US-08-479-537A-2
; Sequence 2, Application US/08479537A
; Patent No. 5861381
;  GENERAL INFORMATION:
;    APPLICANT:  CHAMBON, Pierre
;    APPLICANT:  KIENY, Marie-Paule
;    APPLICANT:  LATHE, Richard
;    APPLICANT:  HAREUVENI, Mara
;    TITLE OF INVENTION:  PHARMACEUTICAL COMPOSITION FOR THE
;    TITLE OF INVENTION:  TREATMENT OR PREVENTION OF A MALIGNANT TUMOR
;    NUMBER OF SEQUENCES:  5
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BURNS, DOANE, SWECKER & MATHIS, L.L.P.
;      STREET:  P.O. Box 1404
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  United States
;      ZIP:  22313-1404
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/479,537A
;      FILING DATE:  07-JUN-1995
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  FR 90/13101
;      FILING DATE:  23-OCT-1990
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  WO PCT/FR91/00835
;      FILING DATE:  23-OCT-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/039,320
;      FILING DATE:  04-APR-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/403,576
;      FILING DATE:  14-MAR-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Teskin, Robin L.
;      REGISTRATION NUMBER:  35,030
;      REFERENCE/DOCKET NUMBER:  017753-025
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703) 836-6620
;      TELEFAX:  (703) 836-2021
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  2035 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
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;      NAME/KEY:  Peptide
;      LOCATION:  128..1899
;      OTHER INFORMATION:  /note= "The amino acids spanning
;      OTHER INFORMATION:  128 to 1899 constitute a repeated region wherein the repeat i
;      OTHER INFORMATION:  20 amino acids, 17 of which are fixed. The number of such
;      OTHER INFORMATION:  repeats varies from 1 to 40."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  134
;      OTHER INFORMATION:  /note= "Amino acid 134 is X1 = Xaa
;      OTHER INFORMATION:  Xaa Xaa which is the codon for Pro or Ala wherein Pro = CCT,
;      OTHER INFORMATION:  CCC, CCA, or CCG; and Ala = GCT, GCC, GCA, or GCG."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  144
;      OTHER INFORMATION:  /note= "Amino acid 144 is Y = Xaa
;      OTHER INFORMATION:  which is the codon for Thr or Asn wherein Thr = ACT, ACC, ACA
;      OTHER INFORMATION:  or ACG; and Asn = AAT or AAC."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  147
;      OTHER INFORMATION:  /note= "Amino acid 147 is X2 = Xaa
;      OTHER INFORMATION:  which is the codon for Pro or Ala wherein Pro = CCT, CCC, CCA
;      OTHER INFORMATION:  or CCG; and Ala = GCT, GCC, GCA, or GCG."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  1..21
;      OTHER INFORMATION:  /note= "Amino acids 1 to 21 are a
;      OTHER INFORMATION:  21 amino acid precursor sequence."
US-08-479-537A-2

  Query Match           100.0%;  Score 49;  DB 2;  Length 2035;
  Best Local Similarity  100.0%;  Pred. No. 5.6;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db       1730 STAPPVHNV 1738


RESULT 5
US-09-083-116-2
; Sequence 2, Application US/09083116
; Patent No. 6203795
;  GENERAL INFORMATION:
;    APPLICANT:  CHAMBON, Pierre
;    APPLICANT:  KIENY, Marie-Paule
;    APPLICANT:  LATHE, Richard
;    APPLICANT:  HAREUVENI, Mara
;    TITLE OF INVENTION:  PHARMACEUTICAL COMPOSITION FOR THE
;    TITLE OF INVENTION:  TREATMENT OR PREVENTION OF A MALIGNANT TUMOR
;    NUMBER OF SEQUENCES:  5
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BURNS, DOANE, SWECKER & MATHIS, L.L.P.
;      STREET:  P.O. Box 1404
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  United States
;      ZIP:  22313-1404
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/083,116
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  08/479,537
;      FILING DATE:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  WO PCT/FR91/00835
;      FILING DATE:  23-OCT-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/039,320
;      FILING DATE:  04-APR-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/403,576
;      FILING DATE:  14-MAR-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Teskin, Robin L.
;      REGISTRATION NUMBER:  35,030
;      REFERENCE/DOCKET NUMBER:  017753-025
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703) 836-6620
;      TELEFAX:  (703) 836-2021
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  2035 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  128..1899
;      OTHER INFORMATION:  /note= "The amino acids spanning
;      OTHER INFORMATION:  128 to 1899 constitute a repeated region wherein the repeat i
;      OTHER INFORMATION:  20 amino acids, 17 of which are fixed. The number of such
;      OTHER INFORMATION:  repeats varies from 1 to 40."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  134
;      OTHER INFORMATION:  /note= "Amino acid 134 is X1 = Xaa
;      OTHER INFORMATION:  Xaa Xaa which is the codon for Pro or Ala wherein Pro = CCT,
;      OTHER INFORMATION:  CCC, CCA, or CCG; and Ala = GCT, GCC, GCA, or GCG."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  144
;      OTHER INFORMATION:  /note= "Amino acid 144 is Y = Xaa
;      OTHER INFORMATION:  which is the codon for Thr or Asn wherein Thr = ACT, ACC, ACA
;      OTHER INFORMATION:  or ACG; and Asn = AAT or AAC."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  147
;      OTHER INFORMATION:  /note= "Amino acid 147 is X2 = Xaa
;      OTHER INFORMATION:  which is the codon for Pro or Ala wherein Pro = CCT, CCC, CCA
;      OTHER INFORMATION:  or CCG; and Ala = GCT, GCC, GCA, or GCG."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  1..21
;      OTHER INFORMATION:  /note= "Amino acids 1 to 21 are a
;      OTHER INFORMATION:  21 amino acid precursor sequence."
US-09-083-116-2

  Query Match           100.0%;  Score 49;  DB 3;  Length 2035;
  Best Local Similarity  100.0%;  Pred. No. 5.6;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db       1730 STAPPVHNV 1738


RESULT 6
US-09-134-916A-2
; Sequence 2, Application US/09134916A
; Patent No. 6328956
;  GENERAL INFORMATION:
;    APPLICANT:  CHAMBON, Pierre
;    APPLICANT:  KIENY, Marie-Paule
;    APPLICANT:  LATHE, Richard
;    APPLICANT:  HAREUVENI, Mara
;    TITLE OF INVENTION:  PHARMACEUTICAL COMPOSITION FOR THE
;    TITLE OF INVENTION:  TREATMENT OR PREVENTION OF A MALIGNANT TUMOR
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;    NUMBER OF SEQUENCES:  5
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  BURNS, DOANE, SWECKER & MATHIS, L.L.P.
;      STREET:  P.O. Box 1404
;      CITY:  Alexandria
;      STATE:  Virginia
;      COUNTRY:  United States
;      ZIP:  22313-1404
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.30
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/09/134,916A
;      FILING DATE:
;      CLASSIFICATION:
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/479,537
;      FILING DATE:  07-JUN-1995
;      APPLICATION NUMBER:  FR 90/13101
;      FILING DATE:  23-OCT-1990
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  WO PCT/FR91/00835
;      FILING DATE:  23-OCT-1991
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/039,320
;      FILING DATE:  04-APR-1993
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:  US 08/403,576
;      FILING DATE:  14-MAR-1995
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Teskin, Robin L.
;      REGISTRATION NUMBER:  35,030
;      REFERENCE/DOCKET NUMBER:  017753-025
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  (703) 836-6620
;      TELEFAX:  (703) 836-2021
;  INFORMATION FOR SEQ ID NO:  2:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  2035 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  128..1899
;      OTHER INFORMATION:  /note= "The amino acids spanning
;      OTHER INFORMATION:  128 to 1899 constitute a repeated region wherein the repeat i
;      OTHER INFORMATION:  20 amino acids, 17 of which are fixed. The number of such
;      OTHER INFORMATION:  repeats varies from 1 to 40."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  134
;      OTHER INFORMATION:  /note= "Amino acid 134 is X1 = Xaa
;      OTHER INFORMATION:  Xaa Xaa which is the codon for Pro or Ala wherein Pro = CCT,
;      OTHER INFORMATION:  CCC, CCA, or CCG; and Ala = GCT, GCC, GCA, or GCG."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  144
;      OTHER INFORMATION:  /note= "Amino acid 144 is Y = Xaa
;      OTHER INFORMATION:  which is the codon for Thr or Asn wherein Thr = ACT, ACC, ACA
;      OTHER INFORMATION:  or ACG; and Asn = AAT or AAC."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  147
;      OTHER INFORMATION:  /note= "Amino acid 147 is X2 = Xaa
;      OTHER INFORMATION:  which is the codon for Pro or Ala wherein Pro = CCT, CCC, CCA
;      OTHER INFORMATION:  or CCG; and Ala = GCT, GCC, GCA, or GCG."
;    FEATURE:
;      NAME/KEY:  Peptide
;      LOCATION:  1..21
;      OTHER INFORMATION:  /note= "Amino acids 1 to 21 are a
;      OTHER INFORMATION:  21 amino acid precursor sequence."
US-09-134-916A-2

  Query Match             100.0%;  Score 49;  DB 3;  Length 2035;
  Best Local Similarity   100.0%;  Pred. No. 5.6;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db       1730 STAPPVHNV 1738


RESULT 7
US-08-787-547-55
; Sequence 55, Application US/08787547
; Patent No. 5783567
;  GENERAL INFORMATION:
;    APPLICANT:  Hedley, Mary Lynne
;    APPLICANT:  Curley, Joanne M.
;    APPLICANT:  Langer, Robert S.
;    TITLE OF INVENTION:  MICROPARTICLES FOR DELIVERY
;    TITLE OF INVENTION:  OF NUCLEIC ACID
;    NUMBER OF SEQUENCES:  107
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  Fish & Richardson, P.C.
;      STREET:  225 Franklin Street
;      CITY:  Boston
;      STATE:  MA
;      COUNTRY:  US
;      ZIP:  02110-2804
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Diskette
;      COMPUTER:  IBM Compatible
;      OPERATING SYSTEM:  Windows95
;      SOFTWARE:  FastSEQ for Windows Version 2.0
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/787,547
;      FILING DATE:  22-JAN-1997
;      CLASSIFICATION:  514
;    PRIOR APPLICATION DATA:
;      APPLICATION NUMBER:
;      FILING DATE:
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  Fraser, Janis K.
;      REGISTRATION NUMBER:  34,819
;      REFERENCE/DOCKET NUMBER:  08191/003001
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  617-542-5070
;      TELEFAX:  617-542-8906
;      TELEX:  200154
;  INFORMATION FOR SEQ ID NO:  55:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  9 amino acids
;      TYPE:  amino acid
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-787-547-55

  Query Match             79.6%;  Score 39;  DB 1;  Length 9;
  Best Local Similarity   77.8%;  Pred. No. 3.8e+05;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||  | |
Db          1 STAPPAHGV 9


RESULT 8
US-08-288-059-19
; Sequence 19, Application US/08288059
; Patent No. 5827666
;  GENERAL INFORMATION:
```

```
;    APPLICANT:  FINN, OLIVERA J.
;    APPLICANT:  FONTENOT, J. D.
;    APPLICANT:  MONTELARO, RONALD C.
;    TITLE OF INVENTION:  SYNTHETIC MULTIPLE TANDEM REPEAT MUCIN
;    TITLE OF INVENTION:  AND MUCIN-LIKE PEPTIDES, AND USES THEREOF
;    NUMBER OF SEQUENCES:  36
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  CUSHMAN DARBY & CUSHMAN, L.L.P.
;      STREET:  1100 NEW YORK AVENUE, N.W.
;      CITY:  WASHINGTON
;      STATE:  D.C.
;      COUNTRY:  USA
;      ZIP:  20005
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/288,059
;      FILING DATE:  08-AUG-1994
;      CLASSIFICATION:  424
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  CHAPIN, MARLANA K.
;      REGISTRATION NUMBER:  35,843
;      REFERENCE/DOCKET NUMBER:  61137/205204
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  202-861-3711
;      TELEFAX:  202-822-0944
;      TELEX:  6714627 CUSH
;  INFORMATION FOR SEQ ID NO:  19:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  9 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-288-059-19

  Query Match             79.6%;  Score 39;  DB 2;  Length 9;
  Best Local Similarity   77.8%;  Pred. No. 3.8e+05;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||  | |
Db          1 STAPPAHGV 9


RESULT 9
US-09-593-870A-45
; Sequence 45, Application US/09593870A
; Patent No. 6548643
; GENERAL INFORMATION:
;  APPLICANT: McKenzie, Ian F.C.
;  APPLICANT:  Apostolopoulos, Vasso
;  APPLICANT:  Pietersz, Geoff Allan
;  TITLE OF INVENTION: Antigen Carbohydrate Compounds and Their
;  TITLE OF INVENTION:  Use in Immunotherapy
;  FILE REFERENCE: 2368-McKenzie
;  CURRENT APPLICATION NUMBER: US/09/593,870A
;  CURRENT FILING DATE:  2000-06-14
;  PRIOR APPLICATION NUMBER: 09/223,043
;  PRIOR FILING DATE: 1998-12-30
;  NUMBER OF SEQ ID NOS: 69
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 45
;   LENGTH: 9
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-593-870A-45

  Query Match             79.6%;  Score 39;  DB 4;  Length 9;
  Best Local Similarity   77.8%;  Pred. No. 3.8e+05;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||  | |
Db          1 STAPPAHGV 9


RESULT 10
US-09-497-232-1
; Sequence 1, Application US/09497232
; Patent No. 6600012
;   GENERAL INFORMATION:
;       APPLICANT: AGRAWAL, Babita
;                  KRANTZ, Mark J.
;                  REDDISH, Mark A.
;                  LONGENECKER, B. Michael
;       TITLE OF INVENTION: METHOD FOR GENERATING ACTIVATED T-CELLS
;                           AND ANTIGEN-PULSED ANTIGEN-PRESENTING CELLS
;       NUMBER OF SEQUENCES: 34
;       CORRESPONDENCE ADDRESS:
;            ADDRESSEE: FOLEY & LARDNER
;            STREET: 3000 K Street, N.W.
;            CITY: Washington
;            STATE: D.C.
;            COUNTRY: U.S.A.
;            ZIP: 20007-5109
;       COMPUTER READABLE FORM:
;            MEDIUM TYPE: Floppy disk
;            COMPUTER: IBM PC compatible
;            OPERATING SYSTEM: PC-DOS/MS-DOS
;            SOFTWARE: PatentIn Release #1.0, Version #1.30
;       CURRENT APPLICATION DATA:
;            APPLICATION NUMBER: US/09/497,232
;            FILING DATE: 03-Feb-2000
;            CLASSIFICATION: <Unknown>
;       PRIOR APPLICATION DATA:
;            APPLICATION NUMBER: US/09/074,410
;            FILING DATE: 08-MAY-1998
;            APPLICATION NUMBER: US 60/045,949
;            FILING DATE: 08-MAY-1997
;       ATTORNEY/AGENT INFORMATION:
;            NAME: Saxe, Bernhard D.
;            REGISTRATION NUMBER: 28,665
;            REFERENCE/DOCKET NUMBER: 042881/0114
;       TELECOMMUNICATION INFORMATION:
;            TELEPHONE: (202) 672-5300
;            TELEFAX: (202) 672-5399
;   INFORMATION FOR SEQ ID NO: 1:
;       SEQUENCE CHARACTERISTICS:
;            LENGTH: 9 amino acids
;            TYPE: amino acid
;            STRANDEDNESS: <Unknown>
;            TOPOLOGY: linear
;       MOLECULE TYPE: peptide
;       SEQUENCE DESCRIPTION: SEQ ID NO: 1:
US-09-497-232-1

  Query Match             79.6%;  Score 39;  DB 4;  Length 9;
  Best Local Similarity   77.8%;  Pred. No. 3.8e+05;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||  | |
Db          1 STAPPAHGV 9


RESULT 11
US-09-043-731-19
; Sequence 19, Application US/09043731A
; Patent No. 6344203
; GENERAL INFORMATION:
;  APPLICANT: The Austin Research Institute
;  TITLE OF INVENTION: Mimicking Peptides in Cancer Therapy
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;  FILE REFERENCE: CALA-200
;  CURRENT APPLICATION NUMBER: US/09/043,731A
;  CURRENT FILING DATE: 1998-06-23
;  NUMBER OF SEQ ID NOS: 26
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 19
;   LENGTH: 16
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Description of Artificial Sequence: single
;   OTHER INFORMATION: stranded linear peptide
US-09-043-731-19

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  Best Local Similarity   77.8%;  Pred. No. 1.7;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              ||||| | |
Db          5 STAPPAHGV 13


RESULT 12
US-08-099-354-3
; Sequence 3, Application US/08099354
; Patent No. 5744144
;  GENERAL INFORMATION:
;    APPLICANT:  FINN, OLIVERA J.
;    APPLICANT:  FONTENOT, J. D.
;    APPLICANT:  MONTELARO, RONALD C.
;    TITLE OF INVENTION:  SYNTHETIC MULTIPLE TAMDEM REPEAT MUCIN
;    TITLE OF INVENTION:  AND MUCIN-LIKE PEPTIDES, AND USES THEREOF
;    NUMBER OF SEQUENCES:  10
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  CUSHMAN, DARBY & CUSHMAN
;      STREET:  1100 NEW YORK AVENUE, N.W.
;      CITY:  WASHINGTON
;      STATE:  D.C.
;      COUNTRY:  USA
;      ZIP:  20005
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/099,354
;      FILING DATE:  30-JUL-1993
;      CLASSIFICATION:  424
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  SIRILLA, GEORGE M.
;      REGISTRATION NUMBER:  18221
;      REFERENCE/DOCKET NUMBER:  6137/202246
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  202-861-3536
;      TELEFAX:  202-822-0944
;      TELEX:  6714627 CUSH
;  INFORMATION FOR SEQ ID NO:  3:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  19 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-099-354-3

  Query Match             79.6%;  Score 39;  DB 1;  Length 19;
  Best Local Similarity   77.8%;  Pred. No. 2;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              ||||| | |
Db          8 STAPPAHGV 16


RESULT 13
US-08-288-059-9
; Sequence 9, Application US/08288059
; Patent No. 5827666
;  GENERAL INFORMATION:
;    APPLICANT:  FINN, OLIVERA J.
;    APPLICANT:  FONTENOT, J. D.
;    APPLICANT:  MONTELARO, RONALD C.
;    TITLE OF INVENTION:  SYNTHETIC MULTIPLE TANDEM REPEAT MUCIN
;    TITLE OF INVENTION:  AND MUCIN-LIKE PEPTIDES, AND USES THEREOF
;    NUMBER OF SEQUENCES:  36
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  CUSHMAN DARBY & CUSHMAN, L.L.P.
;      STREET:  1100 NEW YORK AVENUE, N.W.
;      CITY:  WASHINGTON
;      STATE:  D.C.
;      COUNTRY:  USA
;      ZIP:  20005
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/288,059
;      FILING DATE:  08-AUG-1994
;      CLASSIFICATION:  424
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  CHAPIN, MARLANA K.
;      REGISTRATION NUMBER:  35,843
;      REFERENCE/DOCKET NUMBER:  61137/205204
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  202-861-3711
;      TELEFAX:  202-822-0944
;      TELEX:  6714627 CUSH
;  INFORMATION FOR SEQ ID NO:  9:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  19 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-288-059-9

  Query Match             79.6%;  Score 39;  DB 2;  Length 19;
  Best Local Similarity   77.8%;  Pred. No. 2;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              ||||| | |
Db          8 STAPPAHGV 16


RESULT 14
US-08-288-059-1
; Sequence 1, Application US/08288059
; Patent No. 5827666
;  GENERAL INFORMATION:
;    APPLICANT:  FINN, OLIVERA J.
;    APPLICANT:  FONTENOT, J. D.
;    APPLICANT:  MONTELARO, RONALD C.
;    TITLE OF INVENTION:  SYNTHETIC MULTIPLE TANDEM REPEAT MUCIN
;    TITLE OF INVENTION:  AND MUCIN-LIKE PEPTIDES, AND USES THEREOF
;    NUMBER OF SEQUENCES:  36
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  CUSHMAN DARBY & CUSHMAN, L.L.P.
;      STREET:  1100 NEW YORK AVENUE, N.W.
;      CITY:  WASHINGTON
;      STATE:  D.C.
;      COUNTRY:  USA
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;      ZIP:  20005
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/288,059
;      FILING DATE:  08-AUG-1994
;      CLASSIFICATION:  424
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  CHAPIN, MARLANA K.
;      REGISTRATION NUMBER:  35,843
;      REFERENCE/DOCKET NUMBER:  61137/205204
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  202-861-3711
;      TELEFAX:  202-822-0944
;      TELEX:  6714627 CUSH
;  INFORMATION FOR SEQ ID NO:  1:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  20 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-288-059-1

  Query Match             79.6%;  Score 39;  DB 2;  Length 20;
  Best Local Similarity   77.8%;  Pred. No. 2.1;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              ||||| | |
Db          9 STAPPAHGV 17


RESULT 15
US-08-288-059-32
; Sequence 32, Application US/08288059
; Patent No. 5827666
;  GENERAL INFORMATION:
;    APPLICANT:  FINN, OLIVERA J.
;    APPLICANT:  FONTENOT, J. D.
;    APPLICANT:  MONTELARO, RONALD C.
;    TITLE OF INVENTION:  SYNTHETIC MULTIPLE TANDEM REPEAT MUCIN
;    TITLE OF INVENTION:  AND MUCIN-LIKE PEPTIDES, AND USES THEREOF
;    NUMBER OF SEQUENCES:  36
;    CORRESPONDENCE ADDRESS:
;      ADDRESSEE:  CUSHMAN DARBY & CUSHMAN, L.L.P.
;      STREET:  1100 NEW YORK AVENUE, N.W.
;      CITY:  WASHINGTON
;      STATE:  D.C.
;      COUNTRY:  USA
;      ZIP:  20005
;    COMPUTER READABLE FORM:
;      MEDIUM TYPE:  Floppy disk
;      COMPUTER:  IBM PC compatible
;      OPERATING SYSTEM:  PC-DOS/MS-DOS
;      SOFTWARE:  PatentIn Release #1.0, Version #1.25
;    CURRENT APPLICATION DATA:
;      APPLICATION NUMBER:  US/08/288,059
;      FILING DATE:  08-AUG-1994
;      CLASSIFICATION:  424
;    ATTORNEY/AGENT INFORMATION:
;      NAME:  CHAPIN, MARLANA K.
;      REGISTRATION NUMBER:  35,843
;      REFERENCE/DOCKET NUMBER:  61137/205204
;    TELECOMMUNICATION INFORMATION:
;      TELEPHONE:  202-861-3711
;      TELEFAX:  202-822-0944
;      TELEX:  6714627 CUSH
;  INFORMATION FOR SEQ ID NO:  32:
;    SEQUENCE CHARACTERISTICS:
;      LENGTH:  20 amino acids
;      TYPE:  amino acid
;      STRANDEDNESS:  single
;      TOPOLOGY:  linear
;    MOLECULE TYPE:  peptide
US-08-288-059-32

  Query Match             79.6%;  Score 39;  DB 2;  Length 20;
  Best Local Similarity   77.8%;  Pred. No. 2.1;
  Matches    7;  Conservative    0;  Mismatches    2;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              ||||| | |
Db          9 STAPPAHGV 17


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Job time : 39 secs
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GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: December 9, 2004, 13:57:50 ; Search time 144 Seconds
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Title: US-10-019-513-1
Perfect score: 49
Sequence: 1 STAPPVHNV 9

Scoring table: BLOSUM62
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Searched: 1585576 seqs, 357178320 residues

Total number of hits satisfying chosen parameters: 1585576

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	49	100.0	9	14	US-10-247-703-43	Sequence 43, Appl
2	49	100.0	9	15	US-10-447-161-98	Sequence 98, Appl
3	49	100.0	13	14	US-10-057-136-18	Sequence 18, Appl
4	49	100.0	30	15	US-10-296-734-1168	Sequence 1168, Ap
5	49	100.0	307	14	US-10-247-703-26	Sequence 26, Appl
6	49	100.0	312	15	US-10-296-734-824	Sequence 824, App
7	49	100.0	475	14	US-10-247-703-22	Sequence 22, Appl
8	49	100.0	475	14	US-10-417-312-1	Sequence 1, Appli
9	49	100.0	508	14	US-10-057-136-20	Sequence 20, Appl
10	49	100.0	515	14	US-10-247-703-20	Sequence 20, Appl
11	49	100.0	515	14	US-10-097-340-212	Sequence 212, App
12	49	100.0	515	14	US-10-171-311-156	Sequence 156, App
13	49	100.0	515	15	US-10-612-090-19	Sequence 19, Appl
14	49	100.0	1255	10	US-09-996-069-10	Sequence 10, Appl
15	49	100.0	1255	14	US-10-171-311-158	Sequence 158, App
16	49	100.0	1255	14	US-10-177-293-311	Sequence 311, App
17	49	100.0	1255	16	US-10-734-564-120	Sequence 120, App
18	49	100.0	5546	15	US-10-296-734-1210	Sequence 1210, Ap
19	45	91.8	321	9	US-09-925-301-861	Sequence 861, App
20	41	83.7	192	17	US-10-425-115-267125	Sequence 267125,
21	39	79.6	9	9	US-09-909-460-55	Sequence 55, Appl
22	39	79.6	9	11	US-09-872-836-55	Sequence 55, Appl
23	39	79.6	9	14	US-10-247-703-45	Sequence 45, Appl
24	39	79.6	9	15	US-10-447-161-97	Sequence 97, Appl
25	39	79.6	9	15	US-10-296-317-44	Sequence 44, Appl
26	39	79.6	12	14	US-10-247-703-47	Sequence 47, Appl
27	39	79.6	12	15	US-10-447-161-138	Sequence 138, App
28	39	79.6	20	9	US-09-847-185-20	Sequence 20, Appl
29	39	79.6	20	9	US-09-994-466-1	Sequence 1, Appli
30	39	79.6	20	9	US-09-984-183-11	Sequence 11, Appl
31	39	79.6	20	9	US-09-984-333-1	Sequence 1, Appli
32	39	79.6	20	14	US-10-057-136-1	Sequence 1, Appli
33	39	79.6	20	14	US-10-057-136-16	Sequence 16, Appl
34	39	79.6	20	14	US-10-057-136-17	Sequence 17, Appl
35	39	79.6	20	14	US-10-224-286-20	Sequence 20, Appl
36	39	79.6	20	14	US-10-335-394-40	Sequence 40, Appl
37	39	79.6	20	15	US-10-406-317-31	Sequence 31, Appl
38	39	79.6	20	15	US-10-612-090-3	Sequence 3, Appli
39	39	79.6	20	15	US-10-297-168-31	Sequence 31, Appl
40	39	79.6	20	16	US-10-716-293-215	Sequence 215, App
41	39	79.6	20	16	US-10-441-779C-32	Sequence 32, Appl
42	39	79.6	21	14	US-10-062-710-196	Sequence 196, App
43	39	79.6	21	14	US-10-062-710-207	Sequence 207, App
44	39	79.6	21	16	US-10-380-927-1	Sequence 1, Appli
45	39	79.6	24	9	US-09-815-346-1	Sequence 1, Appli

ALIGNMENTS

RESULT 1
US-10-247-703-43
; Sequence 43, Application US/10247703
; Publication No. US20030063597A1
; GENERAL INFORMATION:
; APPLICANT: Branigan, Patrick
; APPLICANT: Goletz, Theresa J
; APPLICANT: Knight, David M
; APPLICANT: McCarthy, Stephen G
; APPLICANT: Scallon, Bernard J
; APPLICANT: Snyder, Linda A
; TITLE OF INVENTION: NUCLEIC ACID VACCINES USING TUMOR ANTIGEN ENCODING NUCLEIC ACIDS
; TITLE OF INVENTION: CYTOKINE ADJUVANT ENCODING NUCLEIC ACID
; FILE REFERENCE: CEN310
; CURRENT APPLICATION NUMBER: US/10/247,703
; CURRENT FILING DATE: 2002-09-20
; PRIOR APPLICATION NUMBER: 60/328,371
; PRIOR FILING DATE: 2001-10-10
; NUMBER OF SEQ ID NOS: 77
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 43
; LENGTH: 9
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-247-703-43

Query Match 100.0%; Score 49; DB 14; Length 9;
Best Local Similarity 100.0%; Pred. No. 1.4e+06;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 STAPPVHNV 9
||||||||
Db 1 STAPPVHNV 9

RESULT 2

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US-10-447-161-98
; Sequence 98, Application US/10447161
; Publication No. US20040023314A1
; GENERAL INFORMATION:
;  APPLICANT: Wang, Rong-fu
;  TITLE OF INVENTION: Mutant Fibronectin and Tumor Metastasis
;  FILE REFERENCE: HO-P02484US1
;  CURRENT APPLICATION NUMBER: US/10/447,161
;  CURRENT FILING DATE:  2003-05-28
;  PRIOR APPLICATION NUMBER: 60/383,530
;  PRIOR FILING DATE: 2002-05-28
;  NUMBER OF SEQ ID NOS: 148
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 98
;   LENGTH: 9
;   TYPE: PRT
;   ORGANISM: Artificial Sequence
;   FEATURE:
;   OTHER INFORMATION: Synthetic Peptide
US-10-447-161-98

  Query Match            100.0%;  Score 49;  DB 15;  Length 9;
  Best Local Similarity   100.0%;  Pred. No. 1.4e+06;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db          1 STAPPVHNV 9


RESULT 3
US-10-057-136-18
; Sequence 18, Application US/10057136
; Publication No. US20030021770A1
; GENERAL INFORMATION:
;  APPLICANT: SCHLOM, JEFFREY
;  APPLICANT:  KANTOR, JUDITH
;  APPLICANT:  KUFE, DONALD
;  APPLICANT:  PANICALI, DENNIS
;  APPLICANT:  GRITZ, LINDA
;  TITLE OF INVENTION: RECOMBINANT POX VIRUS FOR IMMUNIZATION AGAINST MUC1
;  TITLE OF INVENTION:  TUMOR-ASSOCIATED ANTIGEN
;  FILE REFERENCE: 700953/47113C
;  CURRENT APPLICATION NUMBER: US/10/057,136
;  CURRENT FILING DATE:  2002-01-25
;  PRIOR APPLICATION NUMBER: 09/366,670
;  PRIOR FILING DATE: 1999-08-03
;  PRIOR APPLICATION NUMBER: PCT/US98/03693
;  PRIOR FILING DATE: 1998-02-24
;  PRIOR APPLICATION NUMBER: 60/038,253
;  PRIOR FILING DATE: 1997-02-24
;  NUMBER OF SEQ ID NOS: 20
;  SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 18
;   LENGTH: 13
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-057-136-18

  Query Match            100.0%;  Score 49;  DB 14;  Length 13;
  Best Local Similarity   100.0%;  Pred. No. 0.092;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db          2 STAPPVHNV 10


RESULT 4
US-10-296-734-1168
; Sequence 1168, Application US/10296734
; Publication No. US20040054137A1
; GENERAL INFORMATION:
;  APPLICANT: Thompson, Scott A
;  APPLICANT:  Ramshaw, Ian A
;  TITLE OF INVENTION: Synthetic molecules and uses therefor
;  FILE REFERENCE: Savine
;  CURRENT APPLICATION NUMBER: US/10/296,734
;  CURRENT FILING DATE:  2003-08-04
;  PRIOR APPLICATION NUMBER: AU PQ7761/00
;  PRIOR FILING DATE: 2000-05-26
;  NUMBER OF SEQ ID NOS: 1507
;  SOFTWARE: PatentIn version 3.2
; SEQ ID NO 1168
;   LENGTH: 30
;   TYPE: PRT
;   ORGANISM: Artificial
;   FEATURE:
;   OTHER INFORMATION: MUC1R segment 1
US-10-296-734-1168

  Query Match            100.0%;  Score 49;  DB 15;  Length 30;
  Best Local Similarity   100.0%;  Pred. No. 0.21;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db          9 STAPPVHNV 17


RESULT 5
US-10-247-703-26
; Sequence 26, Application US/10247703
; Publication No. US20030063597A1
; GENERAL INFORMATION:
;  APPLICANT: Branigan, Patrick
;  APPLICANT:  Goletz, Theresa J
;  APPLICANT:  Knight, David M
;  APPLICANT:  McCarthy, Stephen G
;  APPLICANT:  Scallon, Bernard J
;  APPLICANT:  Snyder, Linda A
;  TITLE OF INVENTION: NUCLEIC ACID VACCINES USING TUMOR ANTIGEN ENCODING NUCLEIC ACIDS
;  TITLE OF INVENTION:  CYTOKINE ADJUVANT ENCODING NUCLEIC ACID
;  FILE REFERENCE: CEN310
;  CURRENT APPLICATION NUMBER: US/10/247,703
;  CURRENT FILING DATE:  2002-09-20
;  PRIOR APPLICATION NUMBER: 60/328,371
;  PRIOR FILING DATE: 2001-10-10
;  NUMBER OF SEQ ID NOS: 77
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 26
;   LENGTH: 307
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-247-703-26

  Query Match            100.0%;  Score 49;  DB 14;  Length 307;
  Best Local Similarity   100.0%;  Pred. No. 2.1;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db        170 STAPPVHNV 178


RESULT 6
US-10-296-734-824
; Sequence 824, Application US/10296734
; Publication No. US20040054137A1
; GENERAL INFORMATION:
;  APPLICANT: Thompson, Scott A
;  APPLICANT:  Ramshaw, Ian A
;  TITLE OF INVENTION: Synthetic molecules and uses therefor
;  FILE REFERENCE: Savine
;  CURRENT APPLICATION NUMBER: US/10/296,734
;  CURRENT FILING DATE:  2003-08-04
```

; PRIOR APPLICATION NUMBER: AU PQ7761/00
; PRIOR FILING DATE: 2000-05-26
; NUMBER OF SEQ ID NOS: 1507
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 824
; LENGTH: 312
; TYPE: PRT
; ORGANISM: Artificial
; FEATURE:
; OTHER INFORMATION: MUC1R consensus polypeptide
US-10-296-734-824

Query Match 100.0%; Score 49; DB 15; Length 312;
Best Local Similarity 100.0%; Pred. No. 2.1;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 STAPPVHNV 9
|||||||||
Db 7 STAPPVHNV 15

RESULT 7
US-10-247-703-22
; Sequence 22, Application US/10247703
; Publication No. US20030063597A1
; GENERAL INFORMATION:
; APPLICANT: Branigan, Patrick
; APPLICANT: Goletz, Theresa J
; APPLICANT: Knight, David M
; APPLICANT: McCarthy, Stephen G
; APPLICANT: Scallon, Bernard J
; APPLICANT: Snyder, Linda A
; TITLE OF INVENTION: NUCLEIC ACID VACCINES USING TUMOR ANTIGEN ENCODING NUCLEIC ACIDS
; TITLE OF INVENTION: CYTOKINE ADJUVANT ENCODING NUCLEIC ACID
; FILE REFERENCE: CEN310
; CURRENT APPLICATION NUMBER: US/10/247,703
; CURRENT FILING DATE: 2002-09-20
; PRIOR APPLICATION NUMBER: 60/328,371
; PRIOR FILING DATE: 2001-10-10
; NUMBER OF SEQ ID NOS: 77
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 22
; LENGTH: 475
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-247-703-22

Query Match 100.0%; Score 49; DB 14; Length 475;
Best Local Similarity 100.0%; Pred. No. 3.2;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 STAPPVHNV 9
|||||||||
Db 170 STAPPVHNV 178

RESULT 8
US-10-417-312-1
; Sequence 1, Application US/10417312
; Publication No. US20030235868A1
; GENERAL INFORMATION:
; APPLICANT: Dyax Corp
; TITLE OF INVENTION: Antibodies Specific for Mucin Polypeptide
; FILE REFERENCE: 2403/2002
; CURRENT APPLICATION NUMBER: US/10/417,312
; CURRENT FILING DATE: 2003-04-16
; PRIOR APPLICATION NUMBER: US 60/374,432
; PRIOR FILING DATE: 2002-04-22
; NUMBER OF SEQ ID NOS: 9
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 1
; LENGTH: 475
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-417-312-1

Query Match 100.0%; Score 49; DB 14; Length 475;
Best Local Similarity 100.0%; Pred. No. 3.2;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 STAPPVHNV 9
|||||||||
Db 170 STAPPVHNV 178

RESULT 9
US-10-057-136-20
; Sequence 20, Application US/10057136
; Publication No. US20030021770A1
; GENERAL INFORMATION:
; APPLICANT: SCHLOM, JEFFREY
; APPLICANT: KANTOR, JUDITH
; APPLICANT: KUFE, DONALD
; APPLICANT: PANICALI, DENNIS
; APPLICANT: GRITZ, LINDA
; TITLE OF INVENTION: RECOMBINANT POX VIRUS FOR IMMUNIZATION AGAINST MUC1
; TITLE OF INVENTION: TUMOR-ASSOCIATED ANTIGEN
; FILE REFERENCE: 700953/47113C
; CURRENT APPLICATION NUMBER: US/10/057,136
; CURRENT FILING DATE: 2002-01-25
; PRIOR APPLICATION NUMBER: 09/366,670
; PRIOR FILING DATE: 1999-08-03
; PRIOR APPLICATION NUMBER: PCT/US98/03693
; PRIOR FILING DATE: 1998-02-24
; PRIOR APPLICATION NUMBER: 60/038,253
; PRIOR FILING DATE: 1997-02-24
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 20
; LENGTH: 508
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-057-136-20

Query Match 100.0%; Score 49; DB 14; Length 508;
Best Local Similarity 100.0%; Pred. No. 3.4;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 STAPPVHNV 9
|||||||||
Db 203 STAPPVHNV 211

RESULT 10
US-10-247-703-20
; Sequence 20, Application US/10247703
; Publication No. US20030063597A1
; GENERAL INFORMATION:
; APPLICANT: Branigan, Patrick
; APPLICANT: Goletz, Theresa J
; APPLICANT: Knight, David M
; APPLICANT: McCarthy, Stephen G
; APPLICANT: Scallon, Bernard J
; APPLICANT: Snyder, Linda A
; TITLE OF INVENTION: NUCLEIC ACID VACCINES USING TUMOR ANTIGEN ENCODING NUCLEIC ACIDS
; TITLE OF INVENTION: CYTOKINE ADJUVANT ENCODING NUCLEIC ACID
; FILE REFERENCE: CEN310
; CURRENT APPLICATION NUMBER: US/10/247,703
; CURRENT FILING DATE: 2002-09-20
; PRIOR APPLICATION NUMBER: 60/328,371
; PRIOR FILING DATE: 2001-10-10
; NUMBER OF SEQ ID NOS: 77
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 20
; LENGTH: 515
; TYPE: PRT

; ORGANISM: Homo sapiens
US-10-247-703-20

Query Match 100.0%; Score 49; DB 14; Length 515;
Best Local Similarity 100.0%; Pred. No. 3.5;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 STAPPVHNV 9
|||||||||
Db 210 STAPPVHNV 218

RESULT 11
US-10-097-340-212
; Sequence 212, Application US/10097340
; Publication No. US20030087250A1
; GENERAL INFORMATION:
; APPLICANT: John MONAHAN
; APPLICANT: Manjula GANNAVARAPU
; APPLICANT: Sebastian HOERSCH
; APPLICANT: Shubhangi KAMATKAR
; APPLICANT: Steve G. KOVATS
; APPLICANT: Rachel E. MEYERS
; APPLICANT: Michael MORRISEY
; APPLICANT: Peter OLANDT
; APPLICANT: Ami SEN
; APPLICANT: Peter VEIBY
; APPLICANT: Gordon B. MILLS
; APPLICANT: Robert C. BAST, Jr.
; APPLICANT: Karen LU
; APPLICANT: Rosemarie SCHMANDT
; APPLICANT: Xumei ZHAO
; APPLICANT: Karen GLATT
; TITLE OF INVENTION: Nucleic Acid Molecules and Proteins For The Identification,
; TITLE OF INVENTION: Assessment, Prevention, and Therapy of Ovarian Cancer
; FILE REFERENCE: MRI-030
; CURRENT APPLICATION NUMBER: US/10/097,340
; CURRENT FILING DATE: 2002-03-14
; PRIOR APPLICATION NUMBER: 60/276,025
; PRIOR FILING DATE: 2001-03-14
; PRIOR APPLICATION NUMBER: 60/325,149
; PRIOR FILING DATE: 2001-09-26
; PRIOR APPLICATION NUMBER: 60/276,026
; PRIOR FILING DATE: 2001-03-14
; PRIOR APPLICATION NUMBER: 60/324,967
; PRIOR FILING DATE: 2001/09/26
; PRIOR APPLICATION NUMBER: 60/311,732
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: 60/325,102
; PRIOR FILING DATE: 2001-09-26
; PRIOR APPLICATION NUMBER: 60/323,580
; PRIOR FILING DATE: 2001-09-19
; NUMBER OF SEQ ID NOS: 363
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 212
; LENGTH: 515
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-097-340-212

Query Match 100.0%; Score 49; DB 14; Length 515;
Best Local Similarity 100.0%; Pred. No. 3.5;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 STAPPVHNV 9
|||||||||
Db 210 STAPPVHNV 218

RESULT 12
US-10-171-311-156
; Sequence 156, Application US/10171311
; Publication No. US20030087270A1
; GENERAL INFORMATION:
; APPLICANT: Schlegel, Robert
; APPLICANT: Chen, Yan
; APPLICANT: Zhao, Xumei
; APPLICANT: Monahan, John
; APPLICANT: Kamatkar, Shubhangi
; APPLICANT: Glatt, Karen
; APPLICANT: Gannavarapu, Manjula
; APPLICANT: Hoersh, Sebastian
; TITLE OF INVENTION: NOVEL GENES, COMPOSITIONS, KITS, AND METHODS FOR
; TITLE OF INVENTION: IDENTIFICATION, ASSESSMENT, PREVENTION, AND THERAPY
; TITLE OF INVENTION: OF CERVICAL CANCER
; FILE REFERENCE: MRI-035
; CURRENT APPLICATION NUMBER: US/10/171,311
; CURRENT FILING DATE: 2002-06-12
; PRIOR APPLICATION NUMBER: US 60/298,159
; PRIOR FILING DATE: 2001-06-13
; PRIOR APPLICATION NUMBER: US 60/298,155
; PRIOR FILING DATE: 2001-06-13
; PRIOR APPLICATION NUMBER: US 60/335,936
; PRIOR FILING DATE: 2001-11-14
; NUMBER OF SEQ ID NOS: 238
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 156
; LENGTH: 515
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-171-311-156

Query Match 100.0%; Score 49; DB 14; Length 515;
Best Local Similarity 100.0%; Pred. No. 3.5;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 STAPPVHNV 9
|||||||||
Db 210 STAPPVHNV 218

RESULT 13
US-10-612-090-19
; Sequence 19, Application US/10612090
; Publication No. US20040057952A1
; GENERAL INFORMATION:
; APPLICANT: ImmunoGen, Inc.
; TITLE OF INVENTION: ANTIBODIES TO NON-SHED MUC1 AND MUC16, AND USES THEREOF
; FILE REFERENCE: A8340
; CURRENT APPLICATION NUMBER: US/10/612,090
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: US 60/393,094
; PRIOR FILING DATE: 2002-07-03
; NUMBER OF SEQ ID NOS: 33
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 19
; LENGTH: 515
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Exemplary Muc1 protein
US-10-612-090-19

Query Match 100.0%; Score 49; DB 15; Length 515;
Best Local Similarity 100.0%; Pred. No. 3.5;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 STAPPVHNV 9
|||||||||
Db 210 STAPPVHNV 218

RESULT 14
US-09-996-069-10
; Sequence 10, Application US/09996069
; Publication No. US20030036199A1

```
; GENERAL INFORMATION:
;  APPLICANT: Bamdad, Cynthia
;  APPLICANT:  Bamdad, R. Shoshana
;  TITLE OF INVENTION: DIAGNOSTIC TUMOR MARKERS, DRUG SCREENING FOR TUMORIGENESIS INHIBI
;  TITLE OF INVENTION:  AND COMPOSITIONS AND METHODS FOR TREATMENT OF CANCER
;  FILE REFERENCE: M01015/70071
;  CURRENT APPLICATION NUMBER: US/09/996,069
;  CURRENT FILING DATE:  2001-11-27
;  NUMBER OF SEQ ID NOS: 35
;  SOFTWARE: PatentIn version 3.1
; SEQ ID NO 10
;   LENGTH: 1255
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-996-069-10

  Query Match             100.0%;  Score 49;  DB 10;  Length 1255;
  Best Local Similarity   100.0%;  Pred. No. 8.3;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db        950 STAPPVHNV 958


RESULT 15
US-10-171-311-158
; Sequence 158, Application US/10171311
; Publication No. US20030087270A1
; GENERAL INFORMATION:
;  APPLICANT: Schlegel, Robert
;  APPLICANT:  Chen, Yan
;  APPLICANT:  Zhao, Xumei
;  APPLICANT:  Monahan, John
;  APPLICANT:  Kamatkar, Shubhangi
;  APPLICANT:  Glatt, Karen
;  APPLICANT:  Gannavarapu, Manjula
;  APPLICANT:  Hoersh, Sebastian
;  TITLE OF INVENTION: NOVEL GENES, COMPOSITIONS, KITS, AND METHODS FOR
;  TITLE OF INVENTION:  IDENTIFICATION, ASSESSMENT, PREVENTION, AND THERAPY
;  TITLE OF INVENTION:  OF CERVICAL CANCER
;  FILE REFERENCE: MRI-035
;  CURRENT APPLICATION NUMBER: US/10/171,311
;  CURRENT FILING DATE:  2002-06-12
;  PRIOR APPLICATION NUMBER: US 60/298,159
;  PRIOR FILING DATE: 2001-06-13
;  PRIOR APPLICATION NUMBER: US 60/298,155
;  PRIOR FILING DATE: 2001-06-13
;  PRIOR APPLICATION NUMBER: US 60/335,936
;  PRIOR FILING DATE: 2001-11-14
;  NUMBER OF SEQ ID NOS: 238
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 158
;   LENGTH: 1255
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-10-171-311-158

  Query Match             100.0%;  Score 49;  DB 14;  Length 1255;
  Best Local Similarity   100.0%;  Pred. No. 8.3;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 STAPPVHNV 9
              |||||||||
Db        950 STAPPVHNV 958


Search completed: December  9, 2004, 14:10:02
Job time : 144 secs
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